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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/502,090

07/22/2004

Ingvar Andersson

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BUCHANAN, INGERSOLL & ROONEY PC
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EXAMINER

JACOBSON, MICHELE LYNN

ART UNIT

PAPER NUMBER

4174

NOTIFICATION DATE

DELIVERY MODE

12/21/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/502,090	Applicant(s) ANDERSSON, INGVAR	
	Examiner Michele Jacobson	Art Unit 4174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,8 and 10-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

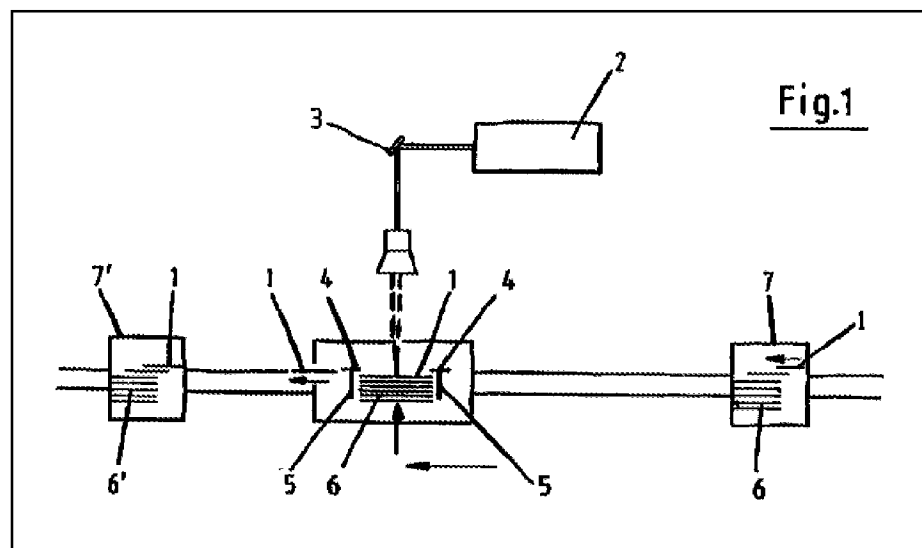
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-4, 8, 10-13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiteder et al. U.S. Patent No. 6,007,756 and Masui U.S. Patent No. 4,834,244.

3. Weiteder et al. disclose "A process and device for perforating and/or semi-cuts in printed multilayer composite material by means of laser beams from at least one laser arranged in a laser station." (See Fig 1, and Col. 1, lines 6-9). Said multilayer composite materials

including paperboard laminated with polyethylene (Col. 1, lines 12-14).

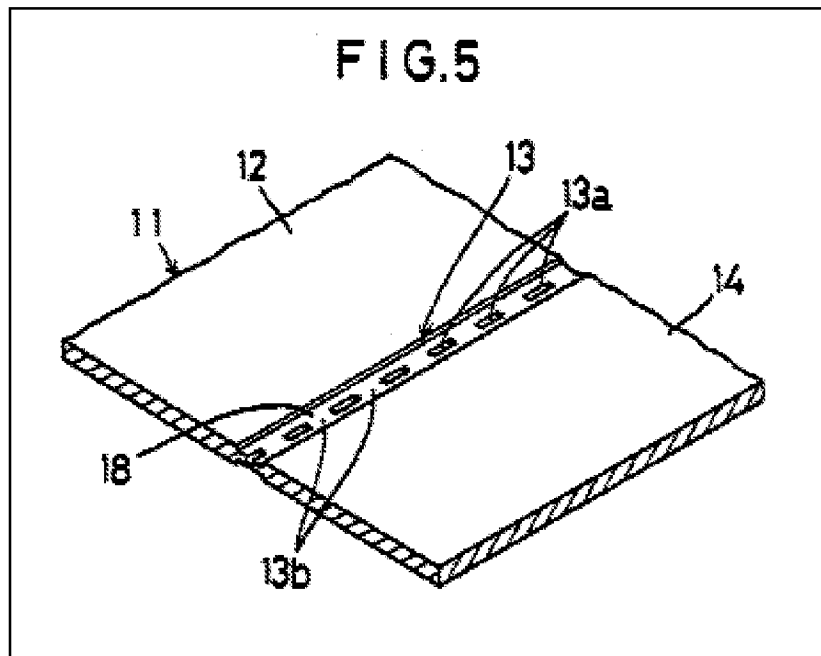
Weiteder et al. also disclose means for laterally feeding the



paperboard to a cut station.

4. Weiteder et al. do not recite compressing the region of the laminated material to be perforated prior to laser perforation.

5. Masui discloses “a boxboard-made case for use in packaging facial tissues or the like”. (Col. 1, lines 6-8) Masui furthermore discloses “On the top wall **12** of the case **11** there is embossed a ruled line **18** extending along the line of



perforations **13** in overlapping relation therewith” (See Fig. 5 and col. 2, lines 41-43)

6. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to have compressed the paperboard laminate prior to perforating it with laser exposure.

7. The suggestion/motivation would have been to weaken the non-perforated portions of the paperboard core layer of the packaging laminate. Masui recites this motivation: “the ruled line **18** provided along the line of perforations **13** in overlapping relation therewith serves to break the body of the boxboard at non-cutout portions and concurrently to break the fiber structure of the boxboard through application of a force of

compression, so that the strength of the non-cutout portions **13a** is considerably lowered. Thus, when the perforations **13** are cut off, the ruled line **18** serves to guide the force of tearing from one cutout **13a** to a next adjacent cutout **13a**.”(Masui, Fig. 5, col. 2, line 61- Col. 3, line 2).

8. Regarding claims 1, 8, 12 and 16: The examiner notes that although the motivation to combine Weiteder with Masui is different from the applicant’s stated motivation of “solving the problem of the build up of ridges of residual material” (Col. 2, line19); the attribute claimed naturally flows from the references cited. The compression line taught by Masui combined with the laser perforation taught by Weiteder would provide a laminate as recited in claims 1 and 8 where the “build-up of thermoplastic residual material around the perforation line after the laser burning ... [is] substantially located entirely below the level of the surrounding surface of the packaging laminate”. As stated in Masui, the strength of the non-cutout portions of the fiberboard is decreased by compression. It would have been obvious to one of ordinary skill in the art to optimize the amount of compression of the paperboard in order to control the frangibility of the laminate depending on the intended use of the package. The range of 20-70% compression recited in claims 1, 8, 12 and 16 would have inherently been obtained by this optimization.

9. Regarding claims 19 and 20: Since the paperboard used for the core of the laminate would have less structural integrity than the thermoplastic material coating, during the compression step of Masui the thermoplastic material would inherently sink in

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but not be compressed. Instead, the paperboard would be compressed as recited in claims 19 and 20.

10. Regarding claim 4: Weiteder teaches a means for laterally feeding the paperboard to a cut station. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to provide a station for handling the packaging laminate and to use rollers for the means of transporting the laminate as recited in claim 4.

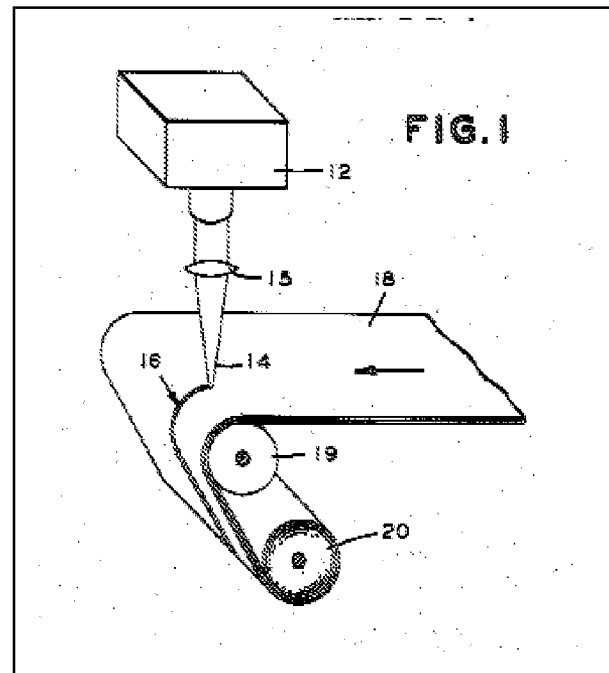
11. Regarding claims 3, 10, 13 and 17: It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the compression line wider than the perforation line because on and around the perforation line is where the laminate would need to be weakened to facilitate tearing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize this width as claimed in claims 3, 10, 13 and 17 to increase the frangibility of the laminate product.

12. Regarding claims 11 and 18: Weiteder teaches using polyethylene or polypropylene as the thermoplastic material to produce a paperboard laminate as recited in claim 11. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to vary the surface weight or grammage of the thermoplastic material as recited in claims 11 and 18 in order to optimize the product based on the end use of the film. A thicker layer would provide more protection of the paperboard while a thinner layer may be preferable for lighter weight packaging. Furthermore, there appears to be no criticality to the ranges of

surface weight or grammage of the thermoplastic material as recited in claims 11 and 18.

13. Claims 1, 3-4, 8, 10-13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen U.S. Patent No. 3,909,582 and Masui U.S. Patent No. 4,834,244.

14. Bowen discloses “a method of forming a line of weakness in multilayer laminates. More particularly, the invention is directed to the use of laser radiant energy to form an easy open tear line in



multilayer laminates, especially those made with polymeric materials.” (See Fig 1 and Col. 1, lines 5-9). Bowen further discloses that the composition of the laminates may include paper layered with either polypropylene or polyethylene (Col. 9, lines 57-60). A means for handling the packaging laminate after laser exposure (Fig. 1) where the “multilayer laminate **18** [is] passed over a backing roll **19** and ... fed onto a wind up roll **20**” is also disclosed. (see Fig 1 and col. 4, lines 57-59).

15. Bowen does not recite compressing the region of the laminated material to be perforated prior to laser perforation.

16. Masui discloses “a boxboard-made case for use in packaging facial tissues or the like”. (Col. 1, lines 6-8) Masui furthermore discloses “On the top wall **12** of the case **11** there is embossed a ruled line **18** extending along the line of perforations **13** in overlapping relation therewith” (See Fig. 5 and col. 2, lines 41-43)

17. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to have compressed the paperboard laminate prior to perforating it with laser exposure.

18. The suggestion/motivation would have been to weaken the non-perforated portions of the paperboard core layer of the packaging laminate. Masui recites this motivation: “the ruled line **18** provided along the line of perforations **13** in overlapping relation therewith serves to break the body of the boxboard at non-cutout portions and concurrently to break the fiber structure of the boxboard through application of a force of compression, so that the strength of the non-cutout portions **13a** is considerably lowered. Thus, when the perforations **13** are cut off, the ruled line **18** serves to guide the force of tearing from one cutout **13a** to a next adjacent cutout **13a**.”(Masui, Fig. 5, col. 2, line 61- Col. 3, line 2).

19. Regarding claims 1, 8, 12 and 16: The examiner notes that although the motivation to combine Bowen with Masui is different from the applicant’s stated motivation of “solving the problem of the build up of ridges of residual material” (Col. 2, line19); the attribute claimed naturally flows from the references cited. The compression line taught by Masui combined with the laser perforation taught by Weiteder would provide a laminate as recited in claims 1 and 8 where the “build-up of

thermoplastic residual material around the perforation line after the laser burning ... [is] substantially located entirely below the level of the surrounding surface of the packaging laminate". As stated in Masui, the strength of the non-cutout portions of the fiberboard is decreased by compression. It would have been obvious to one of ordinary skill in the art to optimize the amount of compression of the paperboard in order to control the frangibility of the laminate depending on the intended use of the package. The range of 20-70% compression recited in claims 1, 8, 12 and 16 would have inherently been obtained by this optimization.

20. Regarding claims 19 and 20: Since the paperboard used for the core of the laminate would have less structural integrity than the thermoplastic material coating, during the compression step of Masui the thermoplastic material would inherently sink in but not be compressed. Instead, the paperboard would be compressed as recited in claims 19 and 20.

21. Regarding claim 4: It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to provide a station for handling the packaging laminate that uses rollers for the means of transporting the laminate as taught by Bowen and recited in claim 4.

22. Regarding claims 3, 10, 13 and 17: It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the compression line wider than the perforation line because on and around the perforation line is where the laminate would need to be weakened to facilitate tearing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize this

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width as claimed in claims 3, 10, 13 and 17 to increase the frangibility of the laminate product.

23. Regarding claims 11 and 18: Bowen teaches using polyethylene or polypropylene as the thermoplastic material to produce a paperboard laminate as recited in claim 11. It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to vary the surface weight or grammage of the thermoplastic material as recited in claims 11 and 18 in order to optimize the product based on the end use of the film. A thicker layer would provide more protection of the paperboard while a thinner layer may be preferable for lighter weight packaging. Furthermore, there appears to be no criticality to the ranges of surface weight or grammage of the thermoplastic material as recited in claims 11 and 18.

24. Claims 1, 3, 5, 7, 8, 10, 12-16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen U.S. Patent No. 3,909,582 and Masui U.S. Patent No. 4,834,244 as applied to claims 1-5 and 7-11 in view of Mayall U.S. Patent No. 1,126,816.

25. Bowen and Masui do not address the dimensions of the tool used to compress the paperboard laminate. These references are also silent regarding the width of the compression in which the perforation line is formed.

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26. Mayall teaches “a machine to automatically by a sequence of operations upon a sheet of card or other board form creasings” (Col. 1, lines 10-13).

27. It would have been obvious to one having ordinary skill in the packaging art at the time the invention was made to arrange a plant for the manufacture of the claimed packaging laminate having stations to perform the steps necessary for production of the laminate in logical succession as recited in claim 5.

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the size of the projections on the compression tool used to achieve the desired compression width (claims 3, 5, 10, 13, 14 and 17) and depth (claims 5 and 15) as well as to utilize an adjustable gap between the roller used to compress the paperboard and the counter roller as recited in claim 5 as this relates directly to the width and depth of the compressed area (a result effective variable). The examiner notes that the word crease as used in Mayall is equivalent to the compression described by applicant.

29. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have optimized the variables above in order to achieve the most desirable compression of the laminate in terms of frangibility. As stated in Masui, the strength of the non-cutout portions of the fiberboard is decreased by compression. It would have been obvious to one of ordinary skill in the art to optimize the amount of compression of the paperboard in order to control the frangibility of the laminate depending on the intended use of the package. The range of 20-70% compression

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recited in claims 1, 8, 12 and 16 would have inherently been obtained by this optimization.

30. Additionally, there appears to be no criticality to the ranges of size neither for the projecting compression portion of the roller as recited in claim 5, 14 and 15 nor for the ranges of the width of the compression produced as recited in claims 3, 10, 13 and 17.

31. Regarding claim 7: It would have been obvious to one having ordinary skill in the packaging arts at the time the invention was made to provide a station for handling the packaging laminate of claim 5 that uses rollers for the means of transporting the laminate as taught by Bowen and recited in claim 7.

Response to Arguments

32. Applicant's arguments filed 11/14/07 have been fully considered but they are not persuasive.

33. On page 8 of the arguments applicant specifically traverses the examiners position that the compression line taught by Masui combined with the laser perforation taught by Weiteder would provide a laminate where the build-up of thermoplastic residual material around the perforation line after laser burning is substantially located entirely below the level of the surrounding surface. However, applicant does not provide any argument to show that the ridge of thermoplastic material would *not* be substantially located below the level of the surrounding surface in the combination of Masui and Weiteder. When compression is performed after laser perforation it would be

inherent that the ridges on the sides of the perforation line would be sunken into the surface of the laminate. It would have been obvious to one of ordinary skill in the art to optimize the amount of compression of the paperboard in order to control the frangibility of the laminate depending on the intended use of the package. The range of 20-70% compression recited in claims 1, 8, 12 and 16 would have inherently been obtained by this optimization.

34. Applicant's argument stated on page 9 that the combination of Masui with Weiteder or Bowen would not be obvious because none of those patents disclose the same motivation as applicant is not germane because it is not a requirement for combining references. Applicant is directed to MPEP 2144 which states that rationale different from applicant's is permissible and specifically "that while there must be motivation to make the claimed invention, there is no requirement that the prior art provide the same reason as the applicant to make the claimed invention".

Furthermore, applicant has not identified how the parameters recited would differ from what one of ordinary skill in the art would select in combining Masui and Weiteder or Bowen. The motivation recited is to weaken the non-perforated portions of the paperboard core layer of the packaging laminate. It would have been obvious to make the compression line wider than the perforation line because on and around the perforation line is where the laminate would need to be weakened to facilitate tearing. In making a compression line over the perforation line, the paperboard core would have been compressed since it is less dense than the thermoplastic material. This would

lead to the ridge formed by the laser perforation being located substantially below the surface of the surrounding laminate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michele Jacobson whose telephone number is (571)272-8905. The examiner can normally be reached on Monday-Friday 7:30 AM-5 PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/

Michele L. Jacobson

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Supervisory Patent Examiner, Art Unit 4174

Examiner
Art Unit 4174

/M. J./